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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,154	07/24/2003	Nicolay Y. Kovarsky	AMAT/7624/CMP/ECP/RKK	2515

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EXAMINER	
SMITH, NICHOLAS A	

ART UNIT	PAPER NUMBER
1742	

MAIL DATE	DELIVERY MODE
06/07/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/627,154	KOVARSKY ET AL.	
	Examiner	Art Unit	
	Nicholas A. Smith	1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 October 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8 and 22-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8 and 22-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This is in response to the Appeal Brief filed 10 October 2006. In view of the arguments in the Brief, the finality of the Office Action dated 1 May 2006 is withdrawn. A new rejection ground follows.

Response to Arguments

2. Applicant's arguments, see Appeal Brief, pp. 11-12, filed 10 October 2006, with respect to claims 1-8 and 29-33 have been fully considered and are persuasive. Furthermore, Examiner states the combination of Izumi et al. in view of Ehrsam to be improper due to no applicable motivation in different discipline (ozone generation and copper plating, respectively) as applied to claims 22-28. The 35 U.S.C. 103(a) under Izumi et al. (US 2001/0007304) in view of Ehrsam (US 3,909,381) of claims 1-3, 5, 22-25, 27, 29-30 and 32 has been withdrawn. The 35 U.S.C. 103(a) under Izumi et al. (US 2001/0007304) in view of Ehrsam (US 3,909,381) and further in view of Belongia et al. (US 6,391,209) of claims 4, 6-8, 26, 28, 31 and 33 has been withdrawn.

Prior Art

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Smith (US Statutory Invention Registration H36) and Ting et al. (US 5,997,712) pertain to electroplating cells that include systems to supplement the feed electrolyte with additional Cu cations.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-8 and 22-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Belongia et al. (US 6,942,779) in view of Schumacher et al. (US 5,976,341).

6. In regards to claims 1-3, Belongia et al. discloses an electrochemical plating cell comprising a fluid basin (Figure 4, **4**, col. 6, lines 35-61), a fluid tank in fluid communication with the fluid basin and being configured to supply the electrolyte plating solution thereto (Figure 4, **1**, thru pump **3**), an electrolyte solution stabilization device in fluid communication (Figure 4, when valve **10** is open) with the fluid tank comprising a fluid container (Figure 4, **31**) with a fluid inlet and a fluid outlet, and absorbent material comprising the claimed composition positioned in the fluid container in a fluid path between the fluid inlet and fluid outlet (Figure 4, inside **31**, col. 8, line 42 to col. 9, line 26). A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647. See MPEP 2114. In the instant case, the absorbent material is capable of leaching a solution additive into the electrolyte plating solution to maintain concentration of the solution additive within a processing window during an electrochemical plating process.

7. However, Belongia et al. does not specifically disclose a fluid basin with an anolyte volume and a catholyte volume.

8. Schumacher et al. discloses a system with a fluid basin with an anolyte volume and a catholyte volume separated by a cationic membrane (col. 10, line 31 to col. 11, line 10). It would have been obvious to one of ordinary skill in the art to modify Belongia et al.'s apparatus with Schumacher et al.'s cationic membrane to create a separate anolyte volume and a catholyte volume because Schumacher et al. teaches that such a cationic membrane leads to advantageous effects with respect to the resistance to aging of the plating solution (Schumacher et al., line 3-10).

9. In regards to claim(s) 4, Belongia et al. in view of Schumacher et al. teaches there are catholyte inlets and outlets (Schumacher et al., Figure 2, col. 10, line 31 to col. 11, line 10) and thus would be in fluid communication with fluid container.

10. In regards to claim(s) 5, a claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647. See MPEP 2114. In the instant case, the absorbent material is capable of leaching a solution additive into the electrolyte plating solution when the concentration of the solution additive is less than a desired concentration and is capable of absorbing additives from the electrolyte solution when the concentration is greater than the desired concentration.

11. In regards to claim(s) 6, Belongia et al. discloses a fluid conduit (Figure 4, connecting **1**, **42**, **41**, **34**, **22**, **31** and **4**) that contains the fluid container inline between fluid basin and fluid tank.

12. In regards to claim(s) 7, Belongia et al. does not specifically disclose the fluid container with absorbent material, however, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Belongia et al. in view of Schumacher et al. by placing the adsorbent-holding material in the reservoir, since it has been held that shifting the location of parts in an apparatus does not constitute a patentable change (In re Japikse, 181 F.2d 1019, 1023, 86 USPQ 70, 73 (CCPA 1950)).

13. In regards to claim(s) 8, Belongia et al. discloses a filter in the claimed position configured to remove particulate matter emanating from the absorbent material from a fluid stream passing therethrough (col. 9, lines 11-26).

14. In regards to claim(s) 22, see reasons stated above in paragraphs 6-8.

15. In regards to claim(s) 23, a claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647. See MPEP 2114. In the instant case, the absorbent material is capable of maintaining the concentration of one solution additive when the electrolyte plating solution comprises two or more solution additives.

16. In regards to claim(s) 24-28, see reasons stated above in paragraphs 9-13

17. In regards to claim(s) 29-33, see reasons stated above in paragraphs 6-13 and 15.

Conclusion

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas A. Smith whose telephone number is (571)-272-8760. The examiner can normally be reached on 8:30 AM to 5:00 PM, Monday through Friday.

19. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571)-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

20. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NAS

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